

A SMALL TRAP FOR COLLECTING CRUSTACEANS IN SHALLOW WATER

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Abstract.—Results from using a small, inexpensive trap, made from plastic water-sampling bottles, to collect crustaceans in shallow water, are reported. The traps can be used to collect both decapods and microcrustaceans.

In 1982, M. Türkay published a summary of results on the use of a small trap for collecting shrimps. In the Aegean Sea, the trap, developed by H. Thiel, University of Hamburg, and Türkay, yielded representatives of eight species of caridean shrimps, of which one, *Lysmata seticaudata* (Risso), was collected only with the trap.

Türkay's paper was originally presented at the COLLOQUIUM CRUSTACEA DECAPODA MEDITERRANEA II, held in Ancona, Italy, in 1979, and I had an opportunity to hear the original presentation. While listening to Türkay's talk I realized that he had come up with an excellent supplement to any field kit: a small, inexpensive, portable trap for decapods.

The Trap

The Thiel-Türkay traps (Fig. 1) can be made from a 1-liter narrow-mouthed polyethylene bottle, with both the top and bottom cut off. The top is inverted and fastened into the end of the bottle to form a funnel-shaped opening. Completed traps measured 12.5 cm long, 9 cm in diameter, with an opening of 2.5 cm. The bottom is replaced by any mesh desired, held in place with a hose clamp. A weight may be attached at the mouth end to hold the trap on the bottom. The narrow mouth allows only small animals to enter the trap, which can be baited and emptied by removing the hose clamp. As many traps as desired can be run in a string.

Results

My first opportunity to use the trap came while I was on Carrie Bow Cay, Belize, in 1982. Three traps, baited with leg segments of spiny lobsters, were set in about four feet of water in coral and shell rubble off the dock on the western side of the island. Over a 24-hour period, no decapods were taken in the traps, and after about 36 hours still no decapods were taken. The traps were then essentially abandoned, forgotten for another two days.

When the traps were finally raised, they were allowed to drain upon the dock, where a variety of small crustaceans appeared in the drain water. Included were more than 50 specimens of a red nebalicean; one cyclopoid, one calanoid, and eight harpacticoid copepods; three gammaridean amphipods; two cirolanid isopods; eight myodocopid and three podocopid ostracodes; and one small spider crab. This catch demonstrated that the traps could be used to collect crustaceans other than decapods.

In October 1982, these traps were used in several of the marine caves in Bermuda (see Sket and Iliffe 1980), where Thomas M. Iliffe, C. W. Hart, Jr., and I were studying the cave shrimps (Hart and Manning 1981). These little traps, usually baited with fish, yielded up to four specimens of the Cuban cave shrimp, *Barbouria cubensis* (Von Martens), when left overnight. In addition, in Wonderland Cave, formerly open as a commercial cave for tourists, a trap set and left

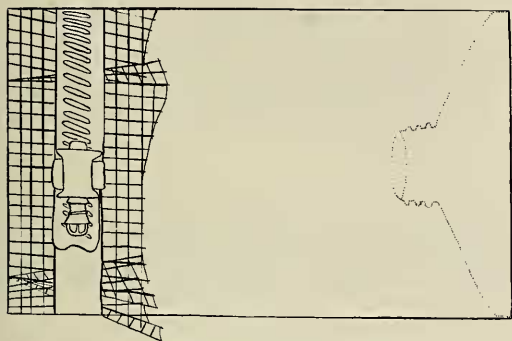


Fig. 1. Diagrammatic cross-section of the Thiel-Türkey bottle trap.

for a week yielded a specimen of *Barbouria* as well as an undescribed ostracode related to the Thaumatocyprididae.

In October 1983 the traps were again used on Bermuda in several different caves in the Walsingham system. Traps left in the water for 24 to 48 hours yielded a fish, *Bathygobius*, several crabs of the genus *Panopeus*, at that time not known to occur in the cave systems, and up to 10 specimens of *Barbouria*. These traps all had been baited with pieces of fresh fish.

Three traps baited with crushed specimens of *Panopeus* were left in an open pool in an area near the caves for five days, and two baited with fish heads were left in a small sink hole in the Walsingham cave system for four days. Both yielded the same kind of organisms. Those in the open pool yielded eight specimens of the calanoid copepod, *Exumella*, and four harpacticoid copepods. Those in the sink hole yielded 23 specimens of *Exumella* and five harpacticoids.

In September 1984 these traps, baited with fish, were left overnight in mangrove roots on the east side of Little Jim Island, in the Indian River just north of the Fort Pierce Inlet, St. Lucie County, Florida (=RBM field station 84-10, 20 Sep 1984). There several specimens of *Periclimenes americanus* (Kingsley) and *Leander tenuicornis* Say were taken. *Periclimenes americanus* was one of

the most abundant decapods taken in grass beds in the Indian River in an earlier study (Gore, Gallaher, Scotto, and Wilson 1981), but *L. tenuicornis* apparently was not found in the grass beds in that survey.

Remarks

The Thiel-Türkey trap is an effective piece of gear for collecting a wide variety of crustaceans in the field. With a fine mesh cover over the opening at the bottom of the bottle, small crustaceans are collected readily. The traps should be left in the water for relatively long periods of time, even for several days, when used to collect smaller crustaceans. When larger crustaceans are sought, the traps can be left out for much shorter periods, even overnight. Some experimental work on effectiveness of different types of baits in different habitats for varying periods of time would be most interesting.

Acknowledgments

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